

**Amendments to the Drawings:**

The attached replacement drawing sheets makes changes to Fig. 2 and replace the original sheet with Figs. 1 and 2.

Attachment: Replacement Sheets

**REMARKS**

Claims 1-11 are pending in this application. By this Amendment, claims 1 and 11, the specification and drawings are amended. No new matter is added. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

**I. Allowable Subject Matter**

The Office Action, on page 3, indicates that claims 2-10 recite allowable subject matter. Specifically, the Office Action indicates that these claims would be allowable if rewritten in independent form to include all of the features of the base claim from which they respectively depend, and any intervening claims.

Applicant appreciates this indication of allowability but respectfully submits that claim 1, from which these claims directly or indirectly depend, is allowable for at least the reasons set forth below.

**II. Objection to the Specification**

The Office Action objects to the specification for referring to a signal converter that converts an analog signal received from sensor current detection circuitry 28 to a digital signal before passing the digital signal to microcomputer 34 as "D/A converter 36," rather than "A/D converter 36."

The specification is amended to correct this informality.

Accordingly, withdrawal of the objection to the specification is respectfully requested.

### **III. Objection to the Drawings**

The Office Action objects to Fig. 2 for labeling the above signal converter that converts an analog signal received from sensor current detection circuitry 28 to a digital signal before passing the digital signal to microcomputer 34 as "D/A 36," rather than "A/D 36."

Fig. 2 is amended to correct this informality.

Accordingly, withdrawal of the objection to the drawings is respectfully requested.

### **IV. §102 Rejection of Claims 1 and 11**

The Office Action rejects claims 1 and 11 under 35 U.S.C. §102(b) as unpatentable over U.S. Patent No. 6,304,813 to Ikeda et al. (Ikeda). This rejection is respectfully traversed.

Independent claim 1 recites an exhaust gas sensor control device for an exhaust gas sensor that is mounted in an exhaust path of an internal combustion engine that includes, among other features, a received heat amount estimation device for estimating an amount of heat received by said sensor element based on one or more operational parameters related to operation of the internal combustion engine other than said element impedance of said sensor element, and a heat amount judgment device for judging whether an activity judgment heat amount is reached in said sensor element based on the amount of heat received by said sensor element.

The Office Action asserts that Ikeda teaches all the features of claim 1. This is incorrect.

For example, the Office Action asserts that Ikeda teaches "a received heat amount estimation device for estimating the amount of heat received by said sensor element" at claim 1, lines 7 and 8; and asserts that Ikeda teaches a "a heat amount judgment device for judging whether an activity judgment heat amount is reached by said amount of heat received" at col. 8, lines 10-13, and Fig. 7.

However, as described in Ikeda at col. 7, lines 44-65, and at col. 10, lines 9-12, and with respect to Figs. 6 and 7, the temperature of the sensor element is determined based upon the impedance of the sensor element. Nowhere does Ikeda teach or suggest determining the temperature of the sensor element based on one or more operational parameters related to operation of the internal combustion engine other than said element impedance of said sensor element, as recited in the claims.

Further, at col. 8, lines 10-13, cited by the Office Action, Ikeda does not address a heat amount judgment device related to the sensor element; rather, Ikeda teaches control of a heater at a high temperature in order to facilitate warming the sensor element to the desired temperature. For example, impedance of the heater is maintained at  $2.1\Omega$  in order to avoid exceeding an upper limit temperature of the heater. Nowhere does Ikeda teach or suggest a heat amount judgment device for judging whether an activity judgment heat amount is reached in said sensor element based on the amount of heat received by said sensor element, as recited in claim 1.

For at least these reasons, Ikeda cannot reasonably be considered to teach, or to have suggested, the combination of features positively recited in independent claim 1. Independent claim 11 includes features similar to those addressed above with respect to claim 1 and, therefore, Ikeda cannot reasonably be considered to teach, or to have suggested, the combination of features recited in independent claim 11 for at least the reasons addressed above with respect to claim 1.

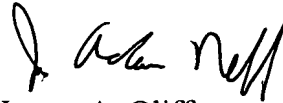
Accordingly, reconsideration and withdrawal of the rejection of claims 1 and 11 under 35 U.S.C. §102(b) as being unpatentable over Ikeda are respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 11, in addition to allowable claims 2-10, are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

J. Adam Neff  
Registration No. 41,218

JAO:JMH/jam

Attachment:  
Replacement Drawing Sheets (2)

Date: November 13, 2006

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
--